

```

1 CTGGCTGCAAG GTCTCACTTA GTCCACTACA AGCTAGACGG TTTTCTTAAA
51 GCAACAAAT TACTTAAAT TTTGGATAAA ATTGCAAAA GANTTTAA
101 GTATTGTGGA CTCTTAAT GA GGCAGGAGGG TGACCAATG CAGTAAACA
151 AAAGATHTTA GGGCTTG AG GGGTACGCA AGTAA ACT GAGATGAG
201 TTTTGTGAAA GGGTGGAGGT GATCAAGA GTATIG AAA CTGTGCTT
251 TGCCAAAGCT TTTTCAAT GCTTGGCTT AAAAATAA AATTAA CT
301 GATTAATGTT GACATGAAGA GAAAGCTGA AGAAATAA GACITAGCT
351 CATTAAGCAA TGGTGGCTT CTGCTGATA AGAA GACTT GAAATAA
401 TTATTAATAA TTGAAGATTT TTTAAGCAA AGTTGCTT CTGCAAGTA
451 CATTGCTTG AGTCCAAAT AGAAAGATTT TTTTAAATTT GGTCTAAAT
501 TTTTGTCAA GTTTTCTGA TACATTAAGA ATATAAATA GAGTAAAT
551 AAGATTTT GAAATATCT GCTGAAGAA TTAAAGTTT TGGATGATA
601 CTAAATATCT CCACTTTTGG ATGAATTTGA TCTAAGATTT GGTGAGGAA
651 CATTGCTTG CAGTAACTA TCTTGGATTT GGTGAGGAA TCTAAGATTT
701 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
751 AATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
801 TCTTGGATTT TCTTGGATTT GGTGAGGAA TCTAAGATTT
851 AAGATTTT GAAATATCT GCTGAAGAA TTAAAGTTT TGGATGATA
901 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
951 AAGATTTT GAAATATCT GCTGAAGAA TTAAAGTTT TGGATGATA
1001 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1051 AATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1101 TCTTGGATTT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1151 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1201 AATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1251 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1301 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1351 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1401 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1451 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1501 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1551 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1601 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1651 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1701 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1751 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1801 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1851 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1901 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
1951 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
2001 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT
2051 GATTTGATCT TCTTGGATTT GGTGAGGAA TCTAAGATTT

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# FEATURES:

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5'UTR: 1-154
Start: 154
Stop: 896
3'UTR: 899

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# HOMOLOGOUS PROTEINS:

## Top BLAST hits:

	Score	E
CRA118060005104129 /altid=gi14557020 /def=ref NP_061289.1  chl3...	505	e-141
CRA118060005104132 /altid=gi13121853 /def=sp O10247 CL12_HUMAN ...	504	e-141
CRA118060005104139 /altid=gi17330335 /def=ref NP_039234.1  chl3...	334	3e-90
CRA118060005104101 /altid=gi16685319 /def=sp Q9Y696 CL14_HUMAN ...	334	3e-90
CRA118060005104144 /altid=gi18393147 /def=ref NP_058625.1  chl...	334	3e-90
CRA118060005104100 /altid=gi17304963 /def=ref NP_038913.1  chl3...	333	4e-90
CRA118060005104103 /altid=gi17592636 /def=sp BAA94345.1  (AB035520)...	332	1e-89
CRA118060005104120 /altid=gi16685295 /def=sp Q9Z0W7 CL14_RAT CH...	330	7e-89
CRA118060005104163 /altid=gi14588514 /def=gb AAD26136.1 AF10913...	328	2e-88
CRA118060005104170 /altid=gi12231044 /def=gb AAG49367.1 AF323...	326	6e-88

## BLAST dbEST hits:

	Score	E
gi13537999 /dataset=dbest /taxon=9606 ...	1063	0.0
gi110671515 /dataset=dbest /taxon=96...	827	0.0
gi14630214 /dataset=dbest /taxon=9606 ...	823	0.0
gi19867186 /dataset=dbest /taxon=9606 ...	646	0.0
gi11235759 /dataset=dbest /taxon=9606 ...	607	e-171
gi11950308 /dataset=dbest /taxon=9606 ...	605	e-171
gi13752728 /dataset=dbest /taxon=9606 ...	543	e-152

## EXPRESSION INFORMATION FOR MODULATORY USE:

library source:

From BLAST dbEST hits:

gi13537999 uterus

gi110671515 lung

gi14630214 germ cell

gi19867186 liver

gi11235759 parathyroid gland

gi11950308 prostate

gi13752728 placenta

From tissue screening panels:

Whole liver

1 MSGLPEGTQV LPEIELEFVKA GSDGESIGNC PEQOLEMIL WLKGVKENVT  
 51 TVWMTRKPEE LMTDAPGTNP PELVYNKEIK TDFIKIEEEL EQTLASPPYP  
 101 HLSKZYKEEF DWGONLFAFF SAYIKNTQYE ANKNEKELL PEFKRLDDYL  
 151 NTHLLDEIDF DJAEPPVSR RLELDGDOLT IADQLLEPL NIKVAAKYY  
 201 PDEFIPAEPS GWWPYLHNAY AREEFTHTOP EDPEIENTYA NVAKQKS (SEQ ID NO:2)

# FEATURES:

## Functional domains and key regions:

[1] PDCC00001 PS00001 ASN\_GLYCOSYLATION  
 N-glycosylation site

48-61 NVTI

[2] PDCC00005 PS00005 PKC\_PHOSPHO\_SITE  
 Protein kinase C phosphorylation site

Number of matches: 4

1 55-67 TRF  
 2 103-105 SPE  
 3 127-129 TQK  
 4 169-171 SKR

[3] PDCC00006 PS00006 CK2\_PHOSPHO\_SITE  
 Casein kinase II phosphorylation site

Number of matches: 7

1 3-11 TVVD  
 2 21-23 SDGE  
 3 51-53 TTVD  
 4 127-130 TQKE  
 5 162-165 SAGE  
 6 180-183 TLAD  
 7 228-231 TQPE

[4] PDCC00007 PS00007 TYR\_PHOSPHO\_SITE  
 Tyrosine kinase phosphorylation site

133-239 PEIENTY

[5] PDCC00008 PS00008 MYRISTYL  
 N-myristoylation site

Number of matches: 2

1 3-8 GLRPGT  
 2 44-49 GVKENV

**BLAST Alignment to Top Hit:**

Accession=U00519.1 /altid=gi14552620 /def-ref=NF\_001230.11 chloride  
intracellular channel 2 [Homo sapiens] /org=Homo sapiens  
/taxon=9606 /dataset=nraa /length=243  
Length = 243

Score = 505 bits (1286), Expect = e-141  
Identities = 242/243 (99%), Positives = 242/243 (99%)  
Frame = +2

Query: 155 MSGLRPGTVDPEIELEFVKAGSDGESIGNPFCQRLMILWLKGVKFNVTVDMTKPEE 334  
MSGLRPGTVDPEIELEFVKAGSDGESIGNPFCQRLMILWLKGVKFNVTVDMTKPEE  
Sbjct: 1 MSGLRPGTVDPEIELEFVKAGSDGESIGNPFCQRLMILWLKGVKFNVTVDMTKPEE 60

Query: 335 LPDLAPGTNPPFLVYNFELKTDFIKIEEFLEQLAPPRYPHLSPKYKESFDVGCNLFKEF 514  
LPDLAPGTNPPFLVYNFELKTDFIKIEEFLEQLAPPRYPHLSPKYKESFDVGCNLFKEF  
Sbjct: 61 LPDLAPGTNPPFLVYNFELKTDFIKIEEFLEQLAPPRYPHLSPKYKESFDVGCNLFKEF 120

Query: 515 SAYIKNTQFEANKNFEKSLLEKFEKRLDDYINTPLLDEIDPDSAEPPVSRFLDGDQLT 694  
SAYIKNTQFEANKNFEKSLLEKFEKRLDDYINTPLLDEIDPDSAEPPVSRFLDGDQLT  
Sbjct: 121 SAYIKNTQFEANKNFEKSLLEKFEKRLDDYINTPLLDEIDPDSAEPPVSRFLDGDQLT 180

Query: 695 LADCSLLPKLNIKVAANKYRDFDIPAEFSGVWRYLHNAYAREEFTHTCPEDKEIENTYA 874  
LADCSLLPKLNIKVAANKYRDFDIPAEFSGVWRYLHNAYAREEFTHTCPEDKEIENTYA  
Sbjct: 181 LADCSLLPKLNIKVAANKYRDFDIPAEFSGVWRYLHNAYAREEFTHTCPEDKEIENTYA 240

Query: 875 N/A 883  
N/A

Sbjct: 241 N/A 243 (SEQ ID NO:4)



3151 ATGAAATAAT CTTAATCATT TGTGTGTTCT TTTAAATGG AAT TTTGGA  
3201 TTTCGTACGA AAGACTCTAA AATTAAGCTT TAGTATATTT GTA ATAAAA  
3251 TTATCGAAT TAAATTTCG GCGAAAAATC TGAATGTAAT ACI TTTGGA  
3301 AAAAATTTT TTAAGTGTG GCGAAAAAA GGAAGAATG ATA TCTACT  
3351 CTGACTTTT AGAATATTTC AAAATATCTT ATA CTATTA TAANTACCTA  
3401 TAAATATGA TTAATATAAA AATTAATAA AATATATAA TGA AGAAGG  
3451 TAGTCTTAA GATATGCTG TCT AATAT ATATCTTGG TCT AATTT  
3501 AATGACGAG AAGAGGATCT ATATATTA CTATATTA GATATATTA  
3551 CTTGAGTAA TCACTCTTC TCACTCT AG TTTCTAC TTTAAATAA  
3601 GTGTAATAA AGAGCTTAC TCACTCTAG AAT TATTIG TAAATATTA  
3651 ATAAATAAG TTAATAAGG ACAATATCT GCACTATAT AATATATTA  
3701 TAAATCTAA CTATCTTCG CATTATAT TTTATTTT AATATATTA  
3751 ATCATAAA AAGAGAAAAA AATTTTTCG GTATATCTT GATATCTT  
3801 TTTGCTAGT GAAGATAAT AAGAGATAG TAATCTATCA AATATATTA  
3851 CGAATTTATA TCACTAAAT TATTTTCG TCACTATTA TATCTATTA  
3901 ATAACTAGAA AAAAACTCT TCACTTTTC TCACTAACT TATCTATTA  
3951 CCCCCACAC TCACTTTTC TATTTTCG TTTCTAGG GATCTATTA  
4001 TTTCTATCT AATATATTA AGAATCTAT CTTCTCTG CTTCTATTA  
4051 TTAATCTAT TTTCTATTA TAACTATG TTTCTATTA TTTCTATTA  
4101 GATCTATTA AAAAACTAA TCACTCTG AATATTA TTTCTATTA  
4151 CCACTATTA TCACTCTG CCACTATTA GATATTA AATATTA  
4201 TTTCTATTA TCACTCTG AAAAACTT TTTCTATTA AATATTA  
4251 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4301 AGCTCTAA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4351 GTCTCTAA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4401 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4451 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4501 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4551 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4601 AATCTATTA AATCTATTA AATCTATTA TTTCTATTA AATATTA  
4651 TCACTATTA AATCTATTA TTTCTATTA TTTCTATTA AATATTA  
4701 GCTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4751 AATCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4801 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4851 AATCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4901 AATCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
4951 AATCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5001 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5051 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5101 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5151 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5201 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5251 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5301 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5351 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5401 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5451 TCACTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
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5551 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5601 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5651 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5701 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5751 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5801 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5851 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5901 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
5951 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6001 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6051 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6101 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6151 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6201 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA  
6251 TTTCTATTA TTTCTATTA TTTCTATTA TTTCTATTA AATATTA

FIGURE 3, page 2 of 24

6301 AAAAATTTCT GTGAAATATAT GTTTTGTGA TTTTGATAGG BATTGCATTA  
 6351 AATCTATATA TTGCTTTGGG TAATAGCA ATTTTAACTA TATTTATTCT  
 6401 TCGAATTCAI AAAATACAA TATCTTTCA TTTTGTATG TTTTTTCAA  
 6411 TTTCTTGTAT CAACTTTTA TATTTTCA GTACAAATCT TTAGTATTT  
 6511 TTGTTAAATA GTATCTACTT TATTCATTT GTAGTATTG CAAATGCAAT  
 6551 TACTTTCTTG ATTTCTTTT ACATGCTTA CTGTGGCAT ATAGAAATGT  
 6601 CACTGATTTT TGTACCTTGA TTTGTAAC TCGAATTTTA CTAAATCTAT  
 6651 CAACCTTTAG AGTTCTCATT CGAGCTTGA GSTTTTCCA AAATATACAT  
 6701 CATATCACTT GCAAAACAAG TAAATGAC TCTTCTTTC CAATTTGCAA  
 6751 GCTTTTATAT TTCTTATTT TCTCTGATT CTCTTCTAG GATTTCTACT  
 6811 AATATCTTGA ATAAATTTTG TGAAGTGGG CATCTTGT ATTTTCTTAA  
 6851 TCTTACAAGA CAGGATTTTA GTTTTGTCT ATTCAGTATA ATACTAGCTA  
 6901 TGGTTTGTG ATATATGCTT TTTATTTGT TGAATATGT TCTCTCTATA  
 6951 CTTATGTTTT TGAGGTTTT TTTTATAAA GGGATGTTTA ATATTATTA  
 7001 AATCTTTTTT AGCACTAATT AAATATGATA TGAGTTTTTT GTTCTTCAAT  
 7051 CTGTTGATAT GATCTATTTT ATTAATTTAT GTGCTATGT TGAATCAATC  
 7101 TTGATCAAT GGAATAAATT GCACTTGTCT ATCTATAATG ATTTTCTT  
 7151 TGTCTTTTTT TTTCTTTT AAATACAGG GTATATGTG AATTTGTA  
 7201 TATAGTAAA CTTCTTCTAT GGTCTTTGT TGTACAAATT ATTTCTACAG  
 7251 CCACTTATTA AGCTATGTA CATTATGTA TTTTTTTT TCGTCTCATG  
 7301 TATTTCTATG TTTTCTCTT CATTCTAAG TGACAAATG TGTATTTGG  
 7351 TTTCTGTTG CTGCTTATAT TTTCTAGGA TAATGCTT TAATTTGTT  
 7401 CATTTCTTA TAAATACAT GATCTCTAT TTTTAAAAA AATGACTTT  
 7451 ATTTATTTT AGTTATTA ATTAATAAAT ATCTAATGT GAAATAAAAA  
 7501 TCAATAAAAA TCACTTATTA TATCTTAA TTTAATCTT ATTTCTAGG  
 7551 CTCTTATGCT TTTATTTCTT CATTATATA GATTAATACA TTTATGAAA  
 7601 AGAGTCTATT CTCTATTTTA ATTTGCTA AAATTAATG CTTTTTTG  
 7651 CATTACTTTT AATAATTTT TTTGCAACT ATTTCTATTT CAAATATAT  
 7701 TATGAATTTA TTTCTATAAG ATTAATATA TTATCTGTAT GTATGTTGT  
 7751 CTGCTTTT TATGATAAA ATTTTTTAAA ATTAAGGCTT TTTATGTTG  
 7801 ASATAGTTGA AGATTAAT CTACTTTTAA GAAATAATG AGAGCATGC  
 7851 TTTCTGCTT TTTCAAAAT TCTTTTAAAG ATAAATCTT GAAAACTAT  
 7901 AATATGTTAA GAAAAAGG AATTATTTGA CATTGATCA GTAGATATA  
 7951 CAAGATTTT ATCACTAAG ACATCTCTT TTTCTTTTA AAGGCTATG  
 8001 TTTCTCTCT TCAATCAAT CTTTAAAT TTTCTCTTT TTTCTTTGA  
 8051 TATTTTATC ATTTTAAAG TTTCTCTAA ATTTTAAA AATGATATC  
 8101 AATTTTGGG ATTTCTTT TTTCTCTAC CAAATCAAT TTTCTTAA  
 8151 TTTCTCTAG TTTCTCTG TATTAATAT TTTCTCTT TTTCTCTGA  
 8201 GTATCTCTC ATGATCTTA TATCTCTAG TTTCTCTT TTTCTCTG  
 8251 TTTCTCTCA TTTCTCTT CATTCTTTT GCTTATTA AAGCAAGGT  
 8301 GTATTAATCT TCTTTTATG TTTCTTTAT GGAATAAAT TTTCTTTT  
 8351 CTGATATAA TCTTAAAGG GTCTAGTTT TTTCTCTCT AAGGCTGCA  
 8401 TTTTATGAT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
 8451 ATTTATGAT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
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 8751 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
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 8951 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
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 9151 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
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 9251 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
 9301 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
 9351 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT  
 9401 TTTCTCTCT TTTTAAAGG TTTCTCTCT TTTCTCTCT TTTCTCTCT

FIGURE 3, page 3 of 24







15751 NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNTAT AAGGTGAGAG  
15801 AAGAGGATCC AGTTCGATTC TTCTACATGT GNTTGCACAA TTATCCCGAG  
15851 ATTATCTTGT GAAAGGGTGT TCTTTCCCGC AATTTATGTT TTGTTTGGCT  
15901 TTCTTAAGA TGAATTGGCT AIAAGTATTT GGCATATATT CTGGGTTCTG  
15951 TATTCGATTC GATTCGTCTA TTGTCACATT TTTATAACA TACCATGCTG  
16001 TTCTGAGGAT TATAGUCTTA TAGCTAGCTT TGAAGTGGG TAATGAGAG  
16051 CTTTCAAGTT TCTCTTTTTC GCTCAATCTT TCTTTCTA TGTCTCTTT  
16101 TTTCTTTTCA TACCAATTTT AGAATTGTTT TT TAATTC GTGAAGAAAT  
16151 AAGCTTTTAT TTTCTAGGGA ATTCAATTGA ATTCTAGAT TCTTTCTG  
16201 AATATCTTCA TTTTCAAAAT ATTCAATCTA CCAATATAG ACCATCTAT  
16251 GATTTCTTAT TTTCTTTCTT CATCTATCAT TTCTTTAGT ATTCTTTCTT  
16301 AATTTCTTCT GATAGGCTCT TTCTCTTCA TCTTTAATA TATCTCTAG  
16351 TTCTTTATTT TATTTTATTT TTTCAAACTA TCTTTAAAGG GATCTAATTC  
16401 TTATTTTATTT TATTTTATTT TTTCAAACTA TCTTTAAAGG GATCTAATTC  
16451 TTCTTTATTT TATTTTATTT TTTCAAACTA TCTTTAAAGG GATCTAATTC  
16501 TTCTTTATTT TATTTTATTT TTTCAAACTA TCTTTAAAGG GATCTAATTC  
16551 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16601 CTTCTTATTT TTTCTCTTTT TTTCTTCTCT CTTCTTCAAC AATTTGAGT  
16651 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16701 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16751 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16801 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16851 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16901 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
16951 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17001 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17051 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17101 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17151 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17201 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17251 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17301 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17351 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17401 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17451 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17501 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17551 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17601 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17651 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17701 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17751 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17801 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17851 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17901 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
17951 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18001 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18051 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18101 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18151 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18201 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18251 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18301 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18351 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18401 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18451 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18501 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT  
18551 TATCTAGGAG AATAGAGGAG AGCTTTAGCT CTTCTTCAAC AATTTGAGT

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20051 AAATAAATA TCATTAAAT GCGATAATG GCGAAT GGA TGTATAGATT  
21101 GAATG TATC GTATTAATC TACCAAT GAT ATTCTT A A GAACCAAAA  
22101 AATATATTT AAAATCATA TCGAATGGA AAAAAGAG C AAATAGTAAA  
23101 AATATATTT AAAAAAATA ACAAAGTAA AGGAAI A C TTACCTTACT  
24101 AAAAAATAA CTATTAATAT ATCTTAATA AAAAGGATG GATATGAGAG  
25101 AAAAAAGAG AGATAAATA ATGGAATAA ATAAGAG C CAAAAATAAT  
26101 GCGAATAAT TA AAATG TGAATTTAA CAAATCTGAG AAAAAAGAGT  
27101 ATTGTAATA AGAGTCTTA TTAATTAAT GGTCTGAA TAAATTGCTA  
28101 GCGTATGGA GCGATTAATA AATGAAAT TTTCTAGAG CATATAGAAA  
29101 AATAAATTA AATATCTTA AATATTGAAA TGTAAATAT AAAAAATCAA  
30101 AAATCTTGA AAAAAATTA GATTAATAA TTCTGAGAT AGAAGAGAGT  
31101 AAATATTTA TGAATTAAT AAAAAATA AATATTAATA AAAAAAAT  
32101 TGAATAATG GGTCTAATA AATTTAATA CTTTAATAA GAAAAAGAAA  
33101 CTATTAATG AAAAAATAA CAACTATAG AATTAATAT CATTCTAATA  
34101 TGTCTTGA TTAATTTG TACTATTTA TTGAATTT TTTGAATAT  
35101 AATATATAG TTTGATTTG TTTGAATTA AATTTAAT TTAATTTAG  
36101 CTCTATATAT TTTATATAT TTTGAGAGG AGGATTTG AGATAATTA  
37101 ATCTATTA CATTCTTCT CAACTTTT TATATTTAGT GAATAATTT  
38101 CAAATATTT GATAATTTA TAAAGGAAA CTTCTTTCT TTTGATTTA  
39101 TTTCTTTCT TTTCTTTCT CAACTTTGAG TGTCTTTCT AATTTCTG  
40101 ATGATTTGA GCGCTTTGA GCGAATAA AATATTTCT CATTAAAGT  
41101 CTTCTTTCT TAAATTTCT AATTTCTCT ATTTCTTTA CAAAGATG  
42101 AAAATTTCT AATATTTCT AATTTCTA AATATTTCT CTTCTTTA  
43101 AGATTTCT AATATTTCT AATTTCTA AATATTTCT AATATTTCT  
44101 TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
45101 AGGATTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
46101 ATGCTATTA AATATTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
47101 TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
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54101 TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
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98101 TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT  
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100101 TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT TTTCTTTCT

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25201 TGGCATGTGA GATGTGCTT TCA TTTCTT CCGTATTTGT GAGGCTTTC  
25251 GAGTCAGTTC GAACTGTGAG TCCATTAAC CT TTTTAT TTTTATTTT  
25301 TTTGTAAATT GGTCACTCTT ACGATCTCT TTAT TGGCAG CATG AAACA  
25351 GACTAATACA AATATCTATC ACHCAATTC GC TATAGTT TCTTTTTCG  
25401 ATGTGTCTT TGTCTTCTTA TCA TCTAAAT ACGTCTTTC TAGAATGATA  
25451 TTAGAAGTAT TTTCTTAA TATAATTTT AGAATATTT GAGTAGAATT  
25501 GGTGTGATTT ATTCTTATTT TTTATTTT GA TACAAGG GCTATCATG  
25551 TTTCTCA TCGAGTGCAG TGTAAATC TIAGTCCCT TCAA TCTGA  
25601 CTCTCCAA C TCAGTGCATC CTC TATCT AGTCTCTGA GTGCTBAGA  
25651 CTACAGCAG GGTGCAAT GGTCTATATA TT TTTATAT TTTTASTAGA  
25701 GA AGAGCTT TTTTCTTAT TCTATTTAT TCTATTTAT AT TTTTAAA  
25751 AATCTGCT AGTATCTAT TTTTATTT TCTATTTA GT TTTCTAT  
25801 TTAGAGTAG TTTACAGAC AATCTATAG TATATATA TTTCTTTT  
25851 TTTCTTAT TTTATCTT CTCTATTA CTTATTTCT ATTACCTTA  
25901 TTTTCTTCT GATTGAATTA CT TTTTCT CATTCTTCT AGGCTATATC  
25951 TGTCTTCT AAAAAGCTT CAG TTTCTT TT TTTCTGGA AGATTTTAT  
26001 TTTCTTCT TTTAGAGAT TTTTCTCT ATATACTAT CTAGGCTAAA  
26051 AGTCTTCT TTTCAAGCT TTTCTCTCT CATGCTATC TTTCTGAT  
26101 TTTAGAGCT CCACTGAAA GTCTCTCT AGAGCTAT TTTCTCT  
26151 GATCTTCT AATTTCTT CTCTCTCT TTTATATC TTTCTCT  
26201 CTCTCTCT GAGAGTT CA CTCTCTCT CTCTCTCT TTTCTCT  
26251 CTCTCTCT CTCTCTCT TATCTATC TTTCTCTCT ATATCTCT  
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29501 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
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29651 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29701 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29751 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29801 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29851 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29901 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
29951 CTCTCTCT CTCTCTCT TTTCTCTCT ATATCTCT TTTCTCT  
30001 GACCTAAT AATGATGTAT CAGCTGTCT TTTCAATAT ATAAAAAAA

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41051 TTTTGGCTTC TACCGAGGAA CTAGTTGGA CACTACAGAA CTTTIGGAG  
41061 CAC TTTTCT TGGACTTCA GCTTGTCTT TTGATTCTG TCTTCTTGG  
41051 AAGAGT CTCTCTG TGTG AAGAGAGCTT TCTTCTTGG ATACTTCTG  
41101 AGAGAGT TGTCTTAACTG CTCTATTCTT CCCTTCTCA TCACTTCTG  
41151 CAGCTTCT TCTCTAT TGAAT TATCTTCTG TGTCTTCTG AGGAGTCTG  
41201 GGAATCA AGTCTCTCTGTA CAGCTCTCT TTTAATCTCA TATCTTCTG  
41251 CTCTCTCT TCTCTCTCT TATCTCTCT CTCTCTCTCT CTCTCTCTCT  
41301 GAGCTCTCT TCTCTCTCT AATCTCTCT GCTCTCTCT TCTCTCTCT  
41351 TATCTCTCT TCTCTCTCT GAGCTCTCT CTCTCTCTCT TCTCTCTCT  
41401 TTTTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
41451 CAGCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
41501 TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
41551 CAGCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
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44051 TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT

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44101 TGGAAATAG CAATTGTA TTTATGTAC TTTTAAAT AATSTACAT  
44151 AAGA TCAT ATTCTATT TT ATTAAA GGTAGAAAG AGTTCAAGAT  
44201 AATGTTTAA ITTGTAATG TGTTTTATA GTTT ATTG TAGCTTCA  
44251 CATA TT T AAAATTTAT AGATT AGC CASI TAA AAATCTGATG  
44301 TGTGAA TA AAACTTA T ACTTCTTGT AGSA AGAA GACTTAAAA  
44351 TATCTTAT ACTTAATGA TATCTAAAG AGAA CTAG AGATCTCT  
44401 AA CTGAAAT CTTAATCT CTGAAAG GCAAAAT GCTTATCTG  
44451 AGTACTT TCTAATCT CTGAAATAG GATCTCT GCACTTTTA  
44501 GAAATAGTCT TTTATCTT AGTATCTT TATA CTAG TTTTCTAA  
44551 ACAGTATTA AATTCTAGAT GATCTCT TGAATTTA AGCTTACAG  
44601 ATATCTT TA TACTCTAGAA TTTTGTATG TATTGAAGA CTTIAGAAAG  
44651 CTTTCTTAA TTAATCTAG CTCTCTGAA CTAAATTT ATCTTCAAT  
44701 TGAATTTTAA ATTATTA TA TTTTAAAGAA AATAAAAT STTGAAGAG  
44751 TTTTAAAT CAGGATCTG TTTTCTCTG AAAATATAC ATTATATAG  
44801 AAATCTTCTT TTTTCTCTG TCTGAACTAA TATTCTAGAT TAAATTTACT  
44851 TTAATCTCTT AGTATTTAA AGGTTAACT AGTAAATCT CTTAATATCT  
44901 TCTTCTTAA TAAATTTTA TTTTAAAGAA CATTAAAT TCTCTTAA  
44951 CTTCTCTT CTAGTTAA CTTAGAGAA TTTTCTCT CATTCTCTT  
45001 TCTCTCTT AATAAGAA GCTAGAAAT TCTCTCTT GCTCTCTT  
45051 CTTCTCTT AAAATTAAT TTTCTCTT TTTCTCTT AGCTCTCTT  
45101 ATCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45151 TATCTCTT GCAATTTTA TCTCTCTT TCTCTCTT TCTCTCTT  
45201 GATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45251 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45301 AGCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45351 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45401 GCTCTCTT GCTCTCTT GCTCTCTT GCTCTCTT GCTCTCTT  
45451 GCTCTCTT GCTCTCTT GCTCTCTT GCTCTCTT GCTCTCTT  
45501 CTTCTCTT TAACTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45551 AATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
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45651 CTCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45701 AGATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45751 AAATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45801 CATTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45851 TAACTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45901 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
45951 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
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46051 ATTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46101 ATCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46151 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46201 CTCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46251 ATCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46301 ATCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46351 AAACTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46401 AGATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46451 AAAATCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46501 CTCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46551 CATTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46601 AATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46651 AGCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46701 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46751 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46801 CTCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46851 AGCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46901 AGATCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
46951 TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
47001 AAAATCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
47051 ATCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
47101 CAACTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
47151 CTCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT  
47201 ACCATCTT TCTCTCTT TCTCTCTT TCTCTCTT TCTCTCTT

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47251 ACTACAAAAA CACAGAAGAC AACCTATGCA ATGCCATCCT AGACATAGGA  
47301 ACACGCAAA ATTTTCATGAC AAGAT ATCA AAAGCAATTG CACGAAAGC  
47351 AAAAATTTCG AAATGGGATT TAATTAAGTG AAAAGCTTC TAAACN AAA  
47401 AAGAAATCA CACAGAGTA AACA A AAC CTA AGAATG CAGGAALAT  
47451 TTAAACAA T ATGCATCTAA CAAA GCTTA AAT CAGTG TGTATAGCA  
47501 GGTAAATCA ATTTCAAGA AAAAAATGC ATTAAATG GGTCAAAAGCA  
47551 CATTACACA TAAACACA TAATG ACA TAATG CAGTAAATTA CAT ATCAAAAGG  
47601 CTATACAG ATCAATGAG AAT CAAAT CAGAAC CAG ATGATATAC  
47651 ATCT AACA ATTCAGATG GTTAAAGATA AATTAAGAA GTCAAGAAAT  
47701 AGTAATGCT GGCAGGCTG TGA AAGAG CAGACATA TACACTCTCA  
47751 GTGATCT ATACATGCT AAGATCTG CAGCATACTG TAGTCACTCT  
47801 TCAAGGAGCT AACAACAGAA CTA CATTG ACCTAGTAAT CCAATTAAG  
47851 GATATATA C CAGAGGAATA TAATCTATT TACTAAGAG ACACGCTCAT  
47901 GATTAATCT ATTCAGAGCT TAATCAAT CAGAAACAG TGGAAATCAAC  
47951 CTAATGCT ATCAATCA CAGTCAATAA AAAAAAGCTG GTACATATAT  
48001 AATATGAAT AGTATGATG CATAAGAAA AATAGATCT GCTCTTTCT  
48051 AAGCAATG ATGAGCTAG AGCTATTAT TCTATAGCAA CTAACAGAGG  
48101 AAAAAAAT CCAATCTACA TCTCTCTATA TATAAGCTGG AGTAAATCA  
48151 TGAAGATCA TGAATCAAA GAAGGGAACA ATCAAGCTG GGTCTCTTT  
48201 GAGCTCTGAG GCTCTGAGCA GAGAAAGAG CAGAAAGAT AAATCTCTG  
48251 TATGAGCTT AATACTCTG TATCAATA ATCTGAGG CAAATCTCTA  
48301 TGAATGAT TCACTATCT AACCAATCT CATTCTGAT CAGAAATCAAA  
48351 ATAAATCTT TTAATCAAT AATATGCT TCTCTCTGCT CTCTCTCTCT  
48401 GCTCTCTGAG CCTCTCTCT TCTCTCTCT TATGAGGAG CTCTCTCTCT  
48451 CTTCTCTCT CTTCTCTCT TCTCTCTCT AATCTCTCT CTTCTCTCT  
48501 AAAAAAAG AAAAAAAG AAAAAAAT AAAAAAAT GCTCTCTCT  
48551 AAAAAAAT CAAATCAAT AATCAAT AATCAAT CTTCTCTCT  
48601 TTTCAATCT TATCTCTCT TCTCTCTCT CTTCTCTCT AGCTCTCTCT  
48651 TCTCAATCT AATCTCTCT GACAATATCT CTCTCTCT TCTCTCTCT  
48701 AATCTCTCT TATCTCTCT CTTCTCTCT TTTCTCTCT AATCTCTCT  
48751 AAAAAATCT AATCTCTCT CTTCTCTCT AATCTCTCT TCTCTCTCT  
48801 TCTCTCTCT GCTCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
48851 CCAATCTCT AATCTCTCT AATCTCTCT AATCTCTCT TCTCTCTCT  
48901 TATCTCTCT GCTCTCTCT CTTCTCTCT TCTCTCTCT TCTCTCTCT  
48951 CATTCTCTCT TATCTCTCT GCTCTCTCT AATCTCTCT TCTCTCTCT  
49001 TATCTCTCT AATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49051 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49101 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49151 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49201 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49251 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49301 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49351 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49401 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49451 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49501 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
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49601 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
49651 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
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49851 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
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49951 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50001 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50051 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50101 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50151 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50201 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50251 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50301 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT  
50351 TATCTCTCT TATCTCTCT TCTCTCTCT TCTCTCTCT TCTCTCTCT

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50491 TGCTTCCAGG AATTCTAATAA AATCTCTGTA AAATCAATAA CTGACTAAAG  
50492 CTAATGGAAAC AAATATTTCA GAGGCGACAC ATACCAAAAA AATATAGTT  
50493 TTACAAATTT AGTTAA GAA ATTAAGCTAAA CCACCAAGAA CCACAAIAAG  
50494 GAGGAAAT AAC AAGAT AAGG SACTGGGAGA AT AATCAAA TTTCAGAAAT  
50495 TTATATTTTA TAAATTTAA AACATCTGCT TTCTAAGAAA AAAAAAATA  
50496 TTAGGATCT GAG AAAA AA GAAA TACCG CAAACA AAA AAACATAA  
50497 CCGCAATCTG TCAATATAG GTG AAAATG AA AAT AAG AATCTTCAAT  
50498 AAGGATCTGA ACATATTAACA CCG AATCTG TC AATCTG G AATCTGATA  
50499 GATTATAG ATATAT TAA TGGT TCCAGC AAT AATAT G AATCTTCAAT  
50500 TATATATCTG ACAAATCTG ATGTCTTAA CATATACT AATATTTAA  
50501 GATATATAAA AAAAAAATG AAAAAAATC AATATATA AATATATA  
50502 TATAATTT ATATATTTA GCA AATCTG TATATATA AATATATA  
50503 TAAATTAACA ACATATAAA GAAAAAATA CATATGAT TATAATCAT  
50504 ATGGAATAC TGAATTTT CCATTAAGA TCAAAACAA GATATGATG  
50505 TTATTTTGG TTGAAAAAA TAAATATCT AATTTCAAT TTCTTAACTG  
50506 GTTAAAGATT GTTTCTTGGC CTAAATATG ATATATCTG GATATATCTG  
50507 TATATCTACT GAAAAAATAT GTTATATCTG CTAAATCTG CAAAAATCTG  
50508 GATTTAAGA AGTAACTTA GTTCTGATG GATCTGAAAG CTTGATCTG  
50509 TGTGATCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50510 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50511 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50512 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50513 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50514 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50515 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50516 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50517 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50518 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50519 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50520 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50521 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50522 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50523 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50524 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50525 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50526 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50527 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50528 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50529 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50530 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50531 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50532 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50533 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50534 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50535 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50536 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50537 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50538 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50539 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50540 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50541 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50542 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50543 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50544 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50545 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50546 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50547 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50548 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50549 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG  
50550 GATCTCTG CTTTCTTGG ACTTCTGATG AGCTCTCTG GATCTCTG

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56791 TAATTTTTTTC CCCTTTGGCTT GAATTCCTGG AATGCATAGC TATAAGCTAA  
56792 AATATATCTT GCAGTTATAA ATGTCATAAG TAAAGGTAGA ATGTCAGCCT  
56793 GTTCTTTTAA AACATTTCCTA TAAAAATCGC TAAAAAATT TCACATTIT  
56794 GTTATTTTAA TATATACATG AGTTTATTTT TGATATAAAT AATAAATACA  
56795 GATAGTGAAG ATATCAGAGA GGAAATTTCT TAAAGATGA TTTTAAAAAT  
56796 CAGCTCTAGC AAGAGCTTAA GATTAATTGG TCATAGAACG GCATTTGACG  
56797 CTTAAATTA TGACCACTTC ATGCTCGAG AGGAGATCT AGCTTTCTG  
56798 ACCCATTTAT ATTATCTTTA AATTAAGAA CACTCATTTA ATAAAAATA  
56799 ATTTTAAAAA AATATATAAG AAAAATAAT AACTGAATCT TTATTATA  
56800 GAAATTAATA GAAATAATA AAAGTTTCT GAGTAAAGT TTTCTCTCT  
56801 GTCCATATAA GATATAAGTA AGTATCTTT AGATAATTA AAAACTTTCT  
56802 ACAAAGTIAA AATATTTACA TTATATACG TATTCASAT CACTGCTTAA  
56803 AATATCTTAA AATCATTTAA ATCTGGAAG AAAAGCTGAA CTTAATCTTT  
56804 GCTCCTTAA AAGGAAACA CAAGCATAG TATAGCTTCA AAAAAGGAAA  
56805 ATATTTTAGG CTTTGGTGGG AGGCTGGAGT TTATATAAAA TTTAAATGAA  
56806 GTAGGCTTAT AATACTTTCA AAGAAAAGTA AGCAATGAG CAAACTTAAA  
56807 GTATCTCTCT TGAAAAACAT AGATTAAGA TAAATGTATA CTSTATCTTT  
56808 AGTTGGGAGA GAAATGCAAT CATCTTGATA ATCTTTGAGA TACATCTCT  
56809 CATCAGTATA TTTTGAATA CATCAATGC ATTAGCAAGT TACAATTGAT  
56810 AGAATACATT TGAATATTTA AATGAATTA GGTAGGCACA GAAAGACAAA  
56811 CACCAATGA TTTTACCTAT ATGTGGAATT TTAAGAAAT CATCTCCTC  
56812 ATATCTGAAA TTTTAAAAAG TTGATCTCAC ATTAATAGAG CTTAGAACTG  
56813 TTTTATTTAG GGGCTAGGGA GGAAGAAAG GTAAAGGCA TGAAGATCT  
56814 TGGTATCTG CTATAAAGTT AGACCTAGGA AGAATAAAT TTTGTTATTA  
56815 CACACATAG CTACTATAG CAAATATTA TTAATATCT ATTCTAAAT  
56816 ACTAGAAAAA GATGCTTTTT AAAGTCTCAT ACAAAGAAAT AACAAATCT  
56817 TATATCTCT GATATCTTAA TTATGCTAT TTGATCTTAA TACTCTCTCT  
56818 ACATCTCTG AAACACCACT TTGATCTTAA TATATATGTA CAATTATCTG  
56819 CCAATTATAC ATTTAAAAAA TAAATTTTAA AAACCTTCAA TTAACCTCTG  
56820 GTTTAAAAAA AAAATATATA CCAAACTTAC ATGATCTCTA AAACAAATAA  
56821 TATCTATGTA AACTCTTCAT ATCAGAACTC ATGGGATAAA TATAAGCTAG  
56822 TGATCTAGAG AAATTTTATA ACTAAGCTCT CTTATATTA AAAATTAAG  
56823 ATGAAAAAAT AATTGATTAA ATATTGAAT AAATAAAAT TTTAAATCT  
56824 CTACAAATAT GTGATATAC TTGACCTTC TCACTCTCT GCTICAAAT  
56825 ACTTAAGGAG ATGCTTTTA ACTATCTCT TTTTAAAGA ACTTAAAAA  
56826 AAATTTCTAA ATGCTCTTTG GTAGATCTC AGTAAATAC ATTAAGGAG  
56827 TTAGATCTAG TAAACAAAT TAACTAAAG AATACAGAG ATTAACTAAA  
56828 AAGTAAAGAA TTAACAAAAA GAATAGAAAT ACTTACATC TAGTAAAG  
56829 ATCAAAAGCT TTTATTTTAA AAAAGATTGA TAATCTAGAC AAAACCTTAA  
56830 GCTATATTTA TTGAAATAAA ACTAGAGGAG CAAAGTATG AAAAATAAG  
56831 AATCTGAAA TAACTATTAG AAGAAATTTA AGCAATCTA AGAGATCTCT  
56832 TTGAGACCT CTGTCGAAAC AAATTTTAAA ATCTAGATTA TAGAGATAT  
56833 TTCTATTTAA AGTAAAGATT ACAAATAAAT ACTTTATTAG AGATATGAAA  
56834 ATTGAAGATC TCAATCTTCA TAAAGAAAAG AGGAAATAT TTTTAAAAAG  
56835 AAGAAATATA GAAAAATATA AAGAACTACT TAAATAAAG TATCAATCTC  
56836 CAGATATTTT CACAGGAAA TGTATCTAAA CTTTAAAAAG CCAATATAGC  
56837 TCAAGTAACT TTTGCGAAAC ACTGTTCTTT CTGAAAAA TAAACAAAA  
56838 TATAAGAAA CTATACATAA ATATTCTAT CTAATCTGCA AAGTTCTTCT  
56839 TAAAGGAGAT ATCTGTAGAC AATCTTAAA CAGCTATAA TGTATATTA  
56840 GATTAAAAA ATAAGTAAAT GAATCTAG TGTAGAGTAC AAAATATCAA  
56841 GAAGCTAGAG ATGAATATG TGTACTGGA TGTATTTAG AGATATGAGT  
56842 ATCTATCTAA GTTAACTTAA ATATTCTAT AGCTTAATAG ATACAAAAAT  
56843 AATTAATAT GTCTATATAC ATGATCTAT ATACATATCT ATAGTTCTTA  
56844 CCCCCTGCT CTAGAGGGC CTAGAGGAAA TAGTACCTTA TAGCAACAA  
56845 GCACAGCTAA TGCTAAGACC TTGATCTCTA ATATCTCTCT CCAATA (SEQ ID NO:3)

# FEATURES:

Start: 56791  
Exon: 56791-56798  
Intron: 56798-56799  
Exon: 56799-56800  
Intron: 56800-56801  
Exon: 56801-56802

Intron: 54240-54281  
 Exon: 54282-54388  
 Intron: 54389-55020  
 Exon: 55021-55202  
 Intron: 55203-56286  
 Exon: 56287-56445  
 Stop: 56446

**CHROMOSOME MAP POSITION:**  
 Chromosome X

**ALLELIC VARIANTS (SNPs):**

Position	Major	Minor	Domain
7107	T	C	Intron
7108	A	T	Intron
8661	C	A	Intron
12620	T	-	Intron
27414	G	A	Intron
11717	T	A	Intron
41186	T	G	Intron
41447	A	G	Intron
46148	T	A	Intron
48183	C	T	Intron
48217	C	T	Intron
48470	A	G	Intron
49542	T	C	Intron
49826	G	C	Intron
52861	T	G	Intron
51753	T	C A	Intron
55624	G	C	Intron
56467	C	A	Beyond ORF (3')
57395	C	T	Beyond ORF (3')

**Context:**

**DNA**

Position 7107	TTGAATAACTGTGGTGAAAGTGGGCATCCTTGTATGTTCCCAATCTTAGAGGACAGGAT TTCAGTTTTTTGTCCATTTCAGTATAAATACATGCTATGCGTTTGTTCATATATGGCTTTTATT CTGTTGAGGTATGTTCCCTCTATACCCATGTTTTTTGAGGGTTTTTTGTCATAAAGGGATG TTTAATATTATCAAATGCTTTTTTCAGCAACAATTAAATGATCATGAGGTTTTTTGTTCTT CATTCGTGTTGATATGATGTATCTCATTAAATTGATGTGTATGTTGAATCATTCTTGCAT [T, C] ACTGGAATAAATTGCACITGCTCATGATAAATGATCTTTTGTGTTGTTTTGTTTTCACT TTTAAGTACAAGGGTACATGTGAGATTGTTATATAGGTAAACTTGTGTTCATGGGTGTT TGTTGTACAAATTATTTTCATCACCCAGGTATTAAGCCTAGTACCCATTAGCTATTTTTTT TTCGTAGTCCATGATTTCTCATCTTTTAGCTGCCACTTGTAATGAGAATGTGTGGTATT TGGTTTTCTGTTGCTGCATTAATTGCTAGGATAATGGCTTCTAGCTCTTTCATGTTT
7202	GGGTTTTGTTCATATATGCTTTTTATTTCTGTGAGGTATGTTCCCTCTATACCCATGTTTTT GAGGGTTTTTTGTATATAAAGGATGTTTAATATTATCAAATGCTTTTTTCAGCAACAATTA AATGATCATGAGGTTTTTTGTTCTTCATTCTGTTGATATGATGTATCTCATTAAATTGATG TGTGTATGTTGAATCATTCTTGCATCACTGCAATAAATTGCACITGGTCAATGATAAATGA TCTTTTGTGTTGTTTTGTTTTCACTTTTAAGTACAGGGGTACATGTGAGATTGTTTAT [A, T] TAGGTAAACITGTATCATGGGCTTTGTTGTACAAATTATTTTCATCACCCAGGTATTAAG CCTAGTACCATTAGCTATTTTTTTTTCTGAGTCCATGTATTCTCATCTTTTAGCTGCCA CTTGTAAGTACAGATGTGTGGTATTTGTTTTCTGTTGCTGCATTAATTTGCTAGGCATA ATGGCTTCTAGCTTGTTCATGTTCCATATAAAGGACATGATCTCATTCTTTTTAAAAA GTGACTTTATTTATTTTAGTTACATAAATTAACAAAATATCACTAAGTGAAAAATAAATC

FIGURE 3, page 20 of 24



TGGCAAAAGGAGTGTAGTTG : TTGGTGGGATAGACCTGCATGTTTAGATTTCGAAGAAAT  
TGGCAAAATGGCTTTCCAGT : TGGTCATACATATTACATTTAAAACCAACCACTATTCTGT  
GATTCTTACCAGSATTTT : TTGTTGTACATATTATTATCTTAACATATTTCAAAAGGCTG  
TAGTGACATTTTATGTTTAAATTTCATTTTCG : AAAAAGCCTAATAAAATTCAGAAATTT  
GTCCTGCTTATTGTGCATCT : TATCTCTCTTCATGTGCAATGCTGTCCATGTCTTTTCT

ATGTCGTTTTTTCCTTTTATTTCAGAGATTAGATTGCAAAATAAAGATTATATAT  
TGTATGTATACAACACAATATTTCCTTTTAAAAAGATATTATTTCGAAIG  
GATTTTGGGGAACAGGTGAAGTTTGGTATCATTAATAATATAGTAGTATTTCAG  
AGATATTGGTGCCTGGTACCAAGGAGTGTACTGTATCAATGTGTAGTTTAT  
CTTCATGTCGACCTGTTCTGTGAGTCTCAAGATGATTGATCATCTTATGGCT

TTTGTATATATGTAACCAATTCTCTTTATCCAGTGTATACCAATGGATGGCAATTTAGGTTTGAAAT  
CGAAGTTTTTGGTATTTTGTGAATAGTGGTGCAGTGTGATGTTGTGCATGATATCTTTATGAT  
AAAATAATTTATATCTCTTTGGGTAGATACCGATCAATAGGATTTCTGGTAAATAGGCGTA  
GTTCTATTTTATAGGTCCTTTAAGAAAATGTCAATCTGCTTTCCCAATATTTGCACTAATTT  
TAGACTCCCACTTAAAGATCTCTTTGTTCTTTCTGCTGTAAGTTTTCACAGTAGTTTTS  
[17]

[illegible][illegible]

[G.A]  
GAGTTTATTTATTTTATTAAATTTTGTGAAAAGCAGGAGATTTTATTTTTCCTGPAIS  
GAGGCTTATGGAATTTTCTCTTCTCTGCTCTTTGGAATTCAGTCTGCAATGACCTTT  
TTTAGTTCTTTATACATCGCATGCTTAAGCTTATGCAAGAGCTTTGCGAGATTTATTT  
CTGTTTAAATGCGCTCTTCTGCTGCTTTATTTATTTAACTCTTACTATCTTTTAA  
CTGTTTAAATCTGATCTTTCTGCTTAAGGCTTTCTGCGAGAGAGGCTATAGATTTT

ZAAATCCAGTTTCAATAACGAACATCAATCATTTCAATTTGATATAAAATAGCGAA  
 AAAATTGTAATTTTTCGAAATAGCAATTTGTCACATTTATGACTTTTAAATTAATGTT  
 ACATAAGAGTCATGATTTTCTATTCTTGAATTAAGCTAGAAAAGAGTTTAAATATAATGTT  
 TAATTTTGTACATTTGTTTCTATAGTTTGGATTCTACATTTTCACATACTTTTAAAT  
 TTATACAATTTGAGCGAATTTTACAAAATCTGATGTTTCGAAAGGATAAACTTATGATTT  
 [T.A]

TTGAGGACAGAAAAAGGCTTAAATATTCCTATTAATTAAATGAATATGTTAAAGACCAGGCTAGAGATATTTTAAAGCTGGAAAGTTAGTGTGCTCCCTGGAAAAAGGCCCAAGATTTGGCTATTCTGAGTAGCTGTGCTAACTCTGTGAGATATATGAGATATCTGTCACAGTTCTGAGAAATCTAGAAATAGTGGCTTTATATGAGATCTTTATATGTGATATATGTGATTTTAAAAAGCATATAAAATTTGACATCAGCTTACCTGAGAAATTTAAGGTAACAGATTTTTCTATACTGCAAGATTTCTGA

GAATTTCTAATTTTCTACTTAAAGCTAGAAAAAGATTAAACATAAATCTTTAATTTTGTCATA  
CTGTTTTTATATCTTTGATTCTAGACTTTCTCAATATAATTTGCTAAAAATTTATACAAATTCAG  
CTAGCTTTATAGAAAAGCTGATCTCTTGAAGAGGAAAAATTAATTAATTTCTTGTAAGGAATGAA  
ATACCTTAAAAATATCTATATAATTAATTAATATGCTTAAGAGCAGGCTAGAGTATTTTC  
TAAGCTGGAAAATTATTTCTCTTGAAGAAAAGGAAATTTGCTTATTTCTGATGCTCTT  
(12, 61)

CTAAGT TTGTGAGATATATGATATCTCTTGAACCTTTTAAATAAGTGCCTTATATATGCA  
GACAGTCTTTTATATATTTGATTTTCTTTTAAACATGCAATTAAATTTGCAATATGACGCTTATCTG  
TGAACCTTTTAAAGGATACCAATATATTTCTATATCTGACGAGGATTTTGATGACATTGAACG  
CTTTAAACAGCGCTTATATGAATATTTATATTAAGCTCTGTGTAAGTGAACATTTATCTTGAAT  
TGAATTTTAAATTAATATATTTAAAGGAAATAAAAAATTTTGAAGATTTTAAAT

ACTCTGAACCTTTAAGGCTACCGATATTTTCTATACTGCAAGATTTCGATGACATTGA  
AAGACTTTAAACAGGCTTAGTAANTTATTAAGGCTCTGTAAAGCAACATTTATGTTG

AGATTCAATTTAAATTAATATATTCAAAAGGAAATAAAAAATTTCAAGAGTTTTTAA  
 AAATCAAGATTGACTTTTCTTCAAAAATTTAGATTATAGGCAAAATGGGTCTTTTGT  
 CACTTCGAACAAATATTCATTTTAAATTTTAAAGTCATATTATTAAGGTA  
 [A,G]  
 CACAGATAAACA TTAATAAATCTCTTTTAAATATATCTATTTCAAAACCATTTAA  
 CTCTCTTTAATTTTCTATTTTCTAGTAAACCTAGAGAGATTTTGAGGCTATATTT  
 CTTTGACTTCAATAAGCAAGCTAGATA TTTATGTTTAACTTTTAAAGCTCTA  
 CAAAAAGATATA TTTGAGGATTTCTAATTTAGCTTTGGGATTTGAGATTTTAAAT  
 TATTGATTTAAA TTTATTTCTGCTTAATTTATATCAGAAATGACA TTTATAGTTT  
 46148 AITTAAGAGTCAATTTTCTGTAATTTATTTGCAATTTATTTCTAATTTCAATAC  
 ACTACATTAAGATTAATTTAATTTTAAATATAATTTGATTATATTTTAACTAATTT  
 ATTATTAAGCTATTTCTTTTAAATTTCTATTTCTATTTTATAGAGTATATTTCT  
 ATTTACATTTATTTTAACTTTCTATTTCTATTTCTATTTCTATTTCTATTTCT  
 AAATTTTATATATTTGAGGATTTATTTCTATTTCTATTTCTATTTCTATTTCT  
 [G,A]  
 TATCAATTAATAAATTTTCTTCAAAAGGAAATTTCTATTTCTTAACTTATTTCT  
 AGTTGATTAATAAATTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 CATTCTTATATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 CAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 ATATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 48158 AITTAAGAGTCAATTTTCTGTAATTTATTTGCAATTTATTTCTAATTTCAATAC  
 CACTATTTCAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TAAATTAAGGATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 AGGAAAGAGAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 [C,T]  
 CATTAAGATTAATAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 GAGGAGAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 48717 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 [C,T]  
 TAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 48970 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 [A,G]  
 TAAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 49592 AITTAAGAGTCAATTTTCTGTAATTTATTTGCAATTTATTTCTAATTTCAATAC  
 ACTATTTCAATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 ATTAAGGATTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT  
 TGGTCTTTTCTTCAAAAGGATTTCTATTTCTTAACTTATTTCT

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[T, C]  
 CTATCTGGTCTTTCCTTGAAGATTACCTCAATGCTTTA CTTTTTTATCAGCTGCACTAG  
 AGCTTCCCGAGGCTTGA GCACTTTCCTTCTGGGTTTGTGGAAGAAATTTTAAAGCAA  
 ATGTATTAGTGCATTTTCAACAAAGAAATATGATCTG GAAAAGCAATAGAAATAAT  
 GGAAAAATCACAAGAGGCGAGGCGCTTTCCTTATGCTTAAATCCAGTACTGCTGCT  
 AGGCTGAGGCGTACAGCTCACTGAACTGATAGCTTGAAGAAATCTTGACCAATATGGA

49826

AGGTTACTGCTA CAGTGAAGGATATTCACCTTATTCTTAATTAAGCTGTGATTTGTA  
 GTTTCAGCTATCTCTCTCTTCTTCTGGAAGGATTAATCTCAATCTTCTTCTTCTTCT  
 GCACTAGCTTCTTCTGAGGCTGAGGCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 AAAGCAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GAGAAATGCAAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 [G, T]  
 TTTTGGAGGCGGAGGCGGCTGCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CATGGAGAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTCTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 AACTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT

52861

CATTTTAAATATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TATGGAAATAGGAGAAATAGTCAAGAGCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 AATAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GATTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 [T, C]  
 CCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TACTGAAATGATTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TTTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TTAGTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TGTACTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT

54703

CTTTAAATCTCTATTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CTGAATATATATATATTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TCTGAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TATCAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 [T, C, A]  
 TTTTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CACTTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 ATTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 AGTTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TCTTGAAGGATATTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT

55624

CTTTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 AATATTAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 ATTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 [G, T]  
 CTGCTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CAGCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CATTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 ACTATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT

56467

TTTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TTTAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 GTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 TATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 ATTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 [T, A]  
 AAGCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT  
 CAATATGAAAAATCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT

FIGURE 3, page 23 of 24

CTATTA GGTATAAATAATCTGTCCACTGTATTCTACAGGTCTTCATACTTTTACTTAATT  
 TTCTTTATTTGTATGTTAAATCACTGCAATCCTGAATGACATGGAAAGCATCACAATCTT  
 TTGGGCTTTGCTTGAATTCCTGGAATGCATACATATAAGCTAAACAGATGTCTGCAGTTA

57895

TCCTGTCATTAATATATTTGAGAATAATGCAATGCACTAGCAAGTTACAATTGATAGAA  
 TACATTTGAAATGTTAAATCAAATAAGCCAGGCACAGAAAGACAAACACCACATGATCTC  
 ACTCATATGTGGAATTTTAAAAAGTTGATCTCATTCATATGTGGAATTTTAAAAAGTTGA  
 TCTCACACAAGTAGAGGCTAGAATCGTGGTTACGAGGGGCTAGGGAGAGAAAGAAGGCAG  
 AGGCACTGAAAGATGTTGCTCAATGGGTATAAAGTTACACCTAGGAAGAATAAATTTTGG  
 [C, T]  
 ATTCACCACAGTAGGGTGACTATAGCAAATAATAATGTAGCATGTATTTCAAGATAGCTA  
 GAAAAGCAGGTTTTTAAATGTCACCACAAAGAAATAACAAATGTTTATAGTGGTGGATAT  
 GGTAATTACGCCCTATTTGATCATTATACTGTGTGTACATGCATTGAAACACCACATTGTA  
 TCCCATATATATGTACAATTATGTGCCCATTATACATTTAAAAAATAAATTTTAAAAACC  
 TTCAATTAACCTCTTGGTTTTAAAGAAAAATATAAACCAAACTACATGATCTCTAAAAACA